

ABSTRACT OF THE DISCLOSURE

Channel stop sections are formed by multiple times of impurity ion implanting processes. Four-layer impurity regions are formed across the depth of a semiconductor substrate (across the depth of the bulk), so that a P-type impurity region is formed deep in the semiconductor substrate; thus, incorrect movement of electric charges is prevented. Other four-layer impurity regions of another channel stop section are decreased in width step by step across the depth of the substrate, so that the reduction of a charge storage region of a light receiving section due to the dispersion of P-type impurity in the channel stop section is prevented in the depth of the substrate.